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DERIVED ADJECTIVES. LANGUAGE CURRICULUM V, TEACHER AND STUDENT VERSIONS.

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THIS DERIVED-ADJECTIVE UNIT FOR 11TH-GRADERS EXPLAINS THE UNDERLYING STRUCTURE OF SOME WORDS ENDING IN "-ING" AND "-EN" WHICH ARE DERIVED FROM VERBS AND USED IN NOUN PHRASES. THE TEACHER VERSION CONTAINS A SHORT OVERVIEW OF THE UNIT AND ANSWERS TO THE EXERCISES IN THE STUDENT VERSION. THE LATTER CONTAINS EXPLANATIONS AND EXERCISES RELATIVE TO (1) THE SIMPLE EMBEDDING OF AN "-ING" WORD PLUS AN INTRANSITIVE VERB, (2) THE DERIVATION OF AN "-ING" WORD PLUS A TRANSITIVE ANIMATE VERB FROM ANOTHER SENTENCE BEFORE THE DERIVED WORD IS PREPOSED IN A NOUN PHRASE, (3) THE SIMPLE EMBEDDING OF AN "-EN" WORD PLUS A TRANSITIVE VERB WHICH IS DERIVED FROM THE PASSIVE, AND (4) THE DERIVATION OF AN "-EN" WORD PLUS A TRANSITIVE VERB FROM ANOTHER SENTENCE BEFORE THE DERIVED WORD IS PREPOSED IN A NOUN PHRASE. SEE ALSO ED 010 129 THROUGH ED 010 160, ED 010 803 THROUGH ED 010 832, TE 000 195 THROUGH TE 000 220, AND TE 000 227 THROUGH TE 000 249. (RD)

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DERIVED ADJECTIVES

Language Curriculum V

Teacher Version

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Teacher Version

DERIVED ADJECTIVES

This unit accounts for the underlying structure of some ing and en words derived from verbs and used in NP's like these:

> The purring cat nodded before the fire.
> I have read an interesting book.
> The abandoned children disappeared.
> A frightened child may cry.

Here again, students have an opportunity to discover another generalization about their language: that regardless of the derivational history of such words, they are preposed in NP's in the same way adjectives are. The student also finds that some of these derived words have another characteristic of adjectives: they may be used with the intensifiers, very and quite.

> I have read a very interesting book.
> A very frightened child may cry.

But when he discovers that not all derived words take intensifiers.

> *The very purring cat nodded before the fire.
> *The very abandoned children disappeared.

he must go to the deep structure of sentences in order to account for this difference in words that seem alike on the surface.

To help students see the difference in the underlying sources of these words and the similarity in the process of embedding them once they have been derived, the material in the student version deals with the embedding of words derived from four kinds of verbs:

1. The simple embedding of ing + Vin, as in The purring cat nodded before the fire.

> The cat nodded before the fire.
> The cat was purring.
> $\Rightarrow$ The cat which was purring nodded before the fire. $\Rightarrow$
>
> The purring cat nodded before the fire.

2. Derivation of ing + Vtan from another sentence before the derived word is preposed in NP, as in I have read an interesting book.

> The book is _____.
> The book interests someone.
> $\Rightarrow$ The book is [The book interests someone.] $\Rightarrow$
> The book is [The book is interesting to someone.] $\Rightarrow$
>
> The book is interesting.

This sentence, then, is the source of the derived word $\frac{(\quad S \quad)}{\text{ing} + \text{Vtan}}$ which is embedded.

I have a book.
The book is interesting. $\Rightarrow$

I have a book (which is interesting.) $\Rightarrow$
I have an interesting book.

3. Simple embedding of en + Vtr word which is derived from the passive, as in

The abandoned children disappeared.

The children disappeared.
Someone abandoned the children. $\Rightarrow$

The children (whom someone abandoned) disappeared. $\overset{Tp}{\Rightarrow}$

The children (who were abandoned by someone) disappeared. $\Rightarrow$

The abandoned children disappeared.

4. Derivation of en + Vtr from another sentence before the derived word $\frac{(\quad S \quad)}{\text{en} + \text{Vtr}}$ is preposed in NP.

The child is _____.
Someone frightened the child.

The child is [Someone frightened the child.] $\overset{Tp}{\Rightarrow}$

The child is [the child is frightened by someone.] $\Rightarrow$

The child is frightened.

This sentence is the source of the derived word $\frac{(\quad S \quad)}{\text{en} + \text{Vtr}}$ which is then embedded.

A child may cry.
The child is frightened. $\Rightarrow$ A child (the child is frightened) may cry. $\Rightarrow$

A child who is frightened may cry. $\Rightarrow$
A frightened child may cry.

Obviously, this unit deals with relatively few of the many structures which account for ing and en words used in NP's. After students become aware of the deep structure of some derived words, they might be interested in trying to discover the sources of other kinds of ing and en words that are used with nouns. In doing this, they will probably encounter many examples in which the ing word is actually considered part of the noun (walking stick, speaking tube, washing machine, baking powder, melting point, laughing gas, dressing gown, dripping pan, filling station, watering

place, etc.), but these, too, come from a variety of sources. (Students who are interested in reading about the underlying structure of compound nouns would find the material by Robert B. Lees in the July 1960 issue of International Journal of American Linguistics, Vol. 26, Number 3, helpful. This is available from Director of Publications of the Research Center in Anthropology, Folklore, and Linguistics, Raye House, Indiana University, Bloomington, Indiana.)

EXERCISES

Some exercises probably include more items than you will need for your class. You may also choose to have students eliminate writing the symbol strings in some of the later exercises, especially in the transformations which prepose the derived adjective in the NP, because throughout the unit emphasis will generally need to be on the derivational history of the ing and en words. The important thing is for them to see that interesting has been derived from another source sentence. The symbol strings should only be used when they contribute to better understanding.

Exercise 1, p. 4

1. The wind damaged the wheat.
   NP + Tns + be + ing + Vin
   The wind was howling. } Tembed →

   NP + which + Tns + be + ing + Vin + . . .
   The wind which was howling damaged the wheat. T delete →

   NP + ing + Vin + . . .
   The wind howling damaged the wheat. T reorder →

   T + ing + Vin + N + N^o
   the howling wind

2. A baby disturbed the guests
   NP + Tns + be + ing + Vin
   A baby was crying. } T embed →

   \# NP + who + Tns + be + ing + Vin + . . .
   A baby who was crying disturbed the guests. T delete →

   NP + ing + Vin + . . .
   A baby crying disturbed the guests. T reorder →

T + ing + Vin + N + N^{o}

A crying baby

#(In some sentences students may prefer to use that in place of who or which.)

3. NP

Police stopped the man.

NP + Tns + be + ing + Vin

The man was running.

T embed ⟹

. . . + NP + who + Tns + be + ing + Vin

Police stopped the man who was running.

T delete ⟹

. . . + NP + ing + Vin

Police stopped the man running.

T reorder ⟹

T + ing + Vin + N + N^{o}

the running man

#4. NP

The trainer rubbed Tom's shoulder.

NP + Tns + be + ing + Vin

Tom's shoulder was aching.

T embed ⟹

. . . + NP + which + Tns + be + ing + Vin

The trainer rubbed Tom's shoulder which was aching.

T delete ⟹

. . . + NP + ing + Vin

The trainer rubbed Tom's shoulder aching.

T reorder ⟹

NP^{s} + s N + N^{o} + ing + Vin ⟹ NP^{s} + s ing + Vin + N + N^{o}

Tom's shoulder aching Tom's aching shoulder

#(Students will recognize the have embedding which produces the possessive, Tom's. It is interesting to note that, in the reordering step of the ing + Vin embedding, we must break the NP Tom's shoulder down into its constituents in order to embed aching between Tom's and shoulder.

5. NP

The snow caused concern.

NP + Tns + be + ing + Vin — T embed →

The snow is melting.

NP + which + Tns + be + ing + Vin + . . . — T delete →

The snow which is melting caused concern.

NP + ing + Vin + . . . — T reorder →

The snow melting caused concern.

T + ing + Vin + N + N^o

the melting snow

#6. NP

A duckling won the prize.

NP + Tns + Be + Adj — T embed →

A duckling was ugly.

NP + which + Tns + Be + Adj + . . . — T delete →

A duckling which was ugly won the prize.

NP + Adj + . . . — T reorder →

A duckling ugly won the prize.

T + Adj + N + N^o

A(n) ugly duckling

#(This adjective embedding was included in this exercise to illustrate the similarity between it and the ing + Vin embedding.)

7. NP

The water has worn away the stone.

NP + Tns + be + ing + Vin — T embed →

The water is dripping.

NP + which + Tns + be + ing + Vin + . . . — T delete →

The water which is dripping has worn away the stone.

NP + ing + Vin

The water dripping has worn away the stone. ⟹ T reorder

T + ing + Vin + N + N°

the dripping water

8. NP

Children disturb their parents.

NP + Tns + be + ing + Vin ⟹ T embed

The children are lying.

NP + who + Tns + be + ing + Vin + . . . ⟹ T delete

Children who are lying disturb their parents.

NP + ing + Vin + . . . ⟹ T reorder

Children lying disturb their parents.

ing + Vin + N + N°

Lying children

Exercise 2, p. 5

1. The exploding firecrackers startled us.

NP + Tns + Vtr + NP

The firecrackers startled us.

NP + Tns + be + ing + Vin

The firecrackers are exploding.

2. NP + Tns + Vtr + NP

Students destroyed the signs.

NP + Tns + be + ing + Vin

Students were rioting.

3. NP + Tns + Vtir + NP + Dir

The Greeks dumped oil on the enemy.

NP + Tns + be + ing + Vin

The oil was boiling.

4. NP + Tns + be + ing + Vtr + NP + Tm

Enrollments are frustrating administrators today.

NP + Tns + be + ing + Vin

Enrollments are increasing.

5. NP + Tns + have + en + Vtr + NP + Tm

Objects have fascinated people for many centuries.

NP + Tns + be + ing + Vin

Objects are flying.

6. NP + Tns + Vtr + NP

The plane emitted a light.

NP + Tns + be + ing + Vin

The light was flashing.

Exercise 3, p. 9

1. Some accidents are nauseating to me.

NP^1 + Tns + be + Adj

Some accidents are S

NP^1 + Tns + Vtan + NP^2

Some accidents nauseate me.

T embed ⟹

NP^1 + Tns + Be + $\overbrace{NP^1 + Tns + Vtan + NP^2}^{S}$

Some accidents are (Some accidents nauseate me)

T add ⟹

NP^1 + Tns + Be + $\overbrace{NP^1 + Tns + be + ing + Vtan + to + NP^2}^{S}$

Some accidents are (Some accidents are nauseating to me.)

T delete ⟹

NP^1 + Tns + Be + $\overbrace{ing + Vtan + to + NP^2}^{S}$

Some accidents are nauseating to me.

2. The situation is amusing to the teacher.

NP^1 + Tns + Be + Adj

The situation is ___S___

NP^1 + Tns + Vtan + NP^2

The situation amuses the teacher.

} T embed ⟹

NP^1 + Tns + Be + [S: NP^1 + Tns + Vtan + NP^2]

The situation is (the situation amuses the teacher.) ⟹ T add

NP^1 + Tns + Be + [S: NP^1 + Tns + be + ing + Vtan + to + NP^2]

The situation is (the situation is amusing to the teacher.) ⟹ T delete

NP^1 + Tns + Be + [S: ing + Vtan + to + NP^2]

The situation is amusing to the teacher.

3. Her expression is forbidding.

NP + Tns + Be + Adj

Her expression is ___S___

NP + Tns + Vtan + NP^2

Her expression forbids someone.

} T embed ⟹

NP + Tns + Be + [S: NP^1 + Tns + Vtan + NP^2]

Her expression is (Her expression forbids someone.) ⟹ T add

NP + Tns + Be + [S: NP^1 + Tns + be + ing + Vtan + to + NP^2]

Her expression is (Her expression is forbidding to someone.) ⟹ T delete

NP + Tns + be + [S: ing + Vtan + to + NP^2]

Her expression is forbidding to someone. ⟹ T delete "to someone"

S

NP + Tns + Be + ing + Vtan

Her expression is forbidding.

4. <u>That conclusion is surprising.</u>

NP + Tns + Be + Adj

That conclusion is S.

NP + Tns + Vtan + NP^2

That conclusion surprises someone.

} T embed ⟹

S

NP + Tns + Be + NP^1 + Tns + Vtan + NP^2

That conclusion is (that conclusion surprises someone.) ⟹ T add

S

NP + Tns + Be + NP^1 + Tns + be + ing + Vtan + to + NP^2

That conclusion is (that conclusion is surprising to someone.) ⟹ T delete

S

NP + Tns + Be + ing + Vtan + to + NP^2

That conclusion is surprising to someone. ⟹ T delete "to someone"

S

NP + Tns + Be + ing + Vtan

That conclusion is surprising.

5. <u>His personality is pleasing.</u>

NP + Tns + Be + Adj

His personality is S

NP + Tns + Vtan + NP^2

His personality pleases someone.

} T embed ⟹

S

NP + Tns + Be + NP^1 + Tns + Vtan + NP^2

His personality is (His personality pleases someone.) ⟹ T add

S

NP + Tns + Be + NP + Tns + be + ing + Vtan + to + NP^2

His personality is (His personality is pleasing to someone.) ⟹ T delete

NP + Tns + Be

His personality is pleasing to someone. —T delete→ "to someone"

S

NP + Tns + Be + ing + Vtan

His personality is pleasing.

Exercise 4, p. 12

1. The official made an astonishing discovery.

Consumer: NP^1 + Tns + V + NP^2

The official made a discovery.

Source: NP^1 + Tns + Vtan + NP^2

The discovery astonished someone.

2. Her reaction was astonishing.

Consumer: NP^1 + Tns + Be + Adj

Her reaction was ___S___.

Source: NP + Tns + Vtan + NP^2

Her reaction astonished someone.

3. The brochure promises an exciting time.

Consumer: NP^1 + Tns + Vtan + NP^2

The brochure promises a time.

Source: NP^1 + Tns + Vtan + NP^2

The time excites someone.

#4. The trip sounds exciting.

Consumer: NP^1 + Tns + Vlnk + Adj

The trip sounds ___S___.

Source: NP^1 + Tns + Vtan + NP^2

The trip excites someone.

Students will notice that the verb in this sentence is a Vlnk rather than a Be. In general, linking verbs, such as appear, seem, and sound that take adjectives will also accept the derived ing + Vtan form substitution.

It appeared exciting.
It seemed exciting.

5. Truth can be amazing.

Consumer: NP^1 + Tns + M + Be + Adj

Truth can be S .

Source: NP^1 + Tns + Vtan + NP^2

Truth amazes someone.

6. He has had amazing success.

Consumer: NP^1 + Tns + have + en + Vmid + NP^2

He has had success.

Source: NP^1 + Tns + Vtan + NP^2

The success amazed someone.

Exercise 5, p. 13

1. The laughing girl showed her braces.

NP^1 + Tns + Vmid + NP^2

The girl showed her braces.

NP^1 + Tns + Be + ing + Vin

The girl was laughing.

T embed ⟹

NP^1 + Who + Tns + Be + ing + Vin

The girl who was laughing . . .

T delete ⟹

NP^1 + ing + Vin

The girl laughing . . .

T reorder ⟹

T + ing + Vin + N + N^o + . . .

the laughing girl. . .

2. He has a pleasing personality.

NP^1 + Tns + Vmid + NP^2

He has a personality.

T embed

NP^1 + Tns + Be + $\overset{S}{\overline{ing + Vtan}}$

The personality is pleasing.

. . . + NP + that + Tns + Be + $\overset{S}{\overline{ing + Vtan}}$

T delete

He has a personality that is pleasing.

NP + $\overset{S}{\overline{ing + Vtan}}$

T reorder

a personality pleasing

T + $\overset{S}{\overline{ing + Vtan}}$ + N + N^o

a pleasing personality

3. Jenny had a horrifying experience.

NP^1 + Tns + Vmid + NP^2

Jenny had an experience.

T embed

NP^1 + Tns + Be + $\overset{S}{\overline{ing + Vtan}}$

The experience was horrifying.

. . . + NP + which + Tns + Be + $\overset{S}{\overline{ing + Vtan}}$

T delete

an experience which was horrifying.

. . . + NP + $\overset{S}{\overline{ing + Vtan}}$

T reorder

an experience horrifying

T + $\overset{S}{\overline{ing + Vtan}}$ + N + N^o

a horrifying experience

4. Hibernating bears may be cantankerous.

NP^1 + Tns + M + Be + Adj
Bears may be cantankerous.

NP^1 + Tns + Be + ing + Vin
Bears are hibernating.

T embed

NP^1 + that + Tns + Be + ing + Vin
Bears that are hibernating

T delete

NP^1 + ing + Vin
Bears hibernating

T reorder

ing + Vin + N + N^o
hibernating bears

#(The reordering transformation seems to be optional in this sentence. Students might try to find other ing - words that offer this option.)

5. This soup has an inviting aroma.

NP^1 + Tns + Vmid + NP^2
This soup has an aroma.

NP^1 + Tns + Be + $\overline{\text{ing + Vtan}}^{S}$
The aroma is inviting.

T embed

. . . NP^2 + that + Tns + Be + $\overline{\text{ing + Vtan}}^{S}$
. . . an aroma that is inviting . .

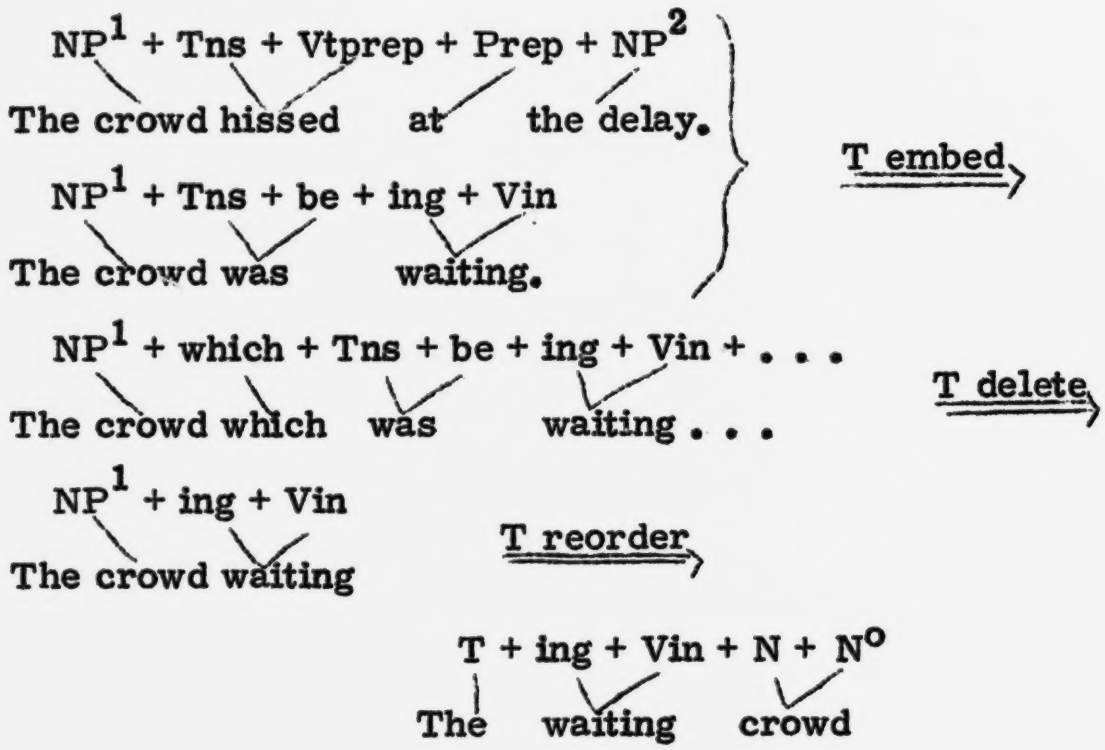
T delete

. . . NP^2 + $\overline{\text{ing + Vtan}}^{S}$
an aroma inviting

T reorder

$\overline{\text{T + ing + Vtan}}^{S}$ + N + N^o
an inviting aroma

6. The waiting crowd hissed at the delay.


NP1 + Tns + Vtprep + Prep + NP2
The crowd hissed at the delay.
NP1 + Tns + be + ing + Vin
The crowd was waiting.
T embed
NP1 + which + Tns + be + ing + Vin + . . .
The crowd which was waiting . . .
T delete
NP1 + ing + Vin
The crowd waiting
T reorder
T + ing + Vin + N + NO
The waiting crowd

Exercise 6, p. 16

Part A. This exercise emphasizes the derivation of the en + Vtr words from the passive. Part B gives students an opportunity to measure their ability to identify three kinds of derivations.

A. 1. Cleared land may cause floods.

Land may cause floods.
Someone cleared the land. ⟹ The land was cleared by someone.

2. The book includes illustrated examples.

The book includes examples.
Someone illustrated the examples. ⟹ The examples were illustrated by someone.

3. The custodian replaced the broken window.

The custodian replaced the window.

Someone
or broke the window. ⟹ The window was broken by someone.
Something

4. His dyed hair fooled the police.

His hair fooled the police.
Someone dyed his hair. ⟹ His hair was dyed by someone.

5. The mayor accepted the signed petition.

The mayor accepted the petition.
Someone signed the petition. ⟹ The petition was signed by someone.

B. 1. Mother smelled the burning cake.

Mother smelled the cake.
The cake was burning.

2. The wrapped package tempted Uncle Joe.

The package tempted Uncle Joe.
Someone wrapped the package. ⟹ The package was wrapped by someone.

3. The squabbling children bothered us.

The children bothered us.
The children were squabbling.

4. Several invited guests came early.

Several guests came early.
Someone invited the guests. ⟹ The guests were invited by someone.

5. This company employs trained scientists.

This company employs scientists.
Someone trains scientists. ⟹ Scientists are trained by someone.

6. The writhing snake fascinated the puppy.

The snake fascinated the puppy.
The snake was writhing.

Exercise 7, p. 20

The sentences in A contain words derived from $\frac{S}{en + Vtr}$. In B, students are asked to discriminate between $\frac{S}{en + Vtr}$ and en + Vtr.

A1. A wrinkled shirt lay on the floor.

NP + Tns + be + Adj
The shirt was S.
NP^1 + Tns + Vtr + NP^2
Something wrinkled the shirt.

⟹ T embed

NP + Tns + Be + NP^1 + Tns + Vtr + NP^2

The shirt was (Something wrinkled the shirt.) $\xrightarrow{T_{passive}}$

NP + Tns + Be + NP^2 + Tns + Be + en + Vtr + by + NP^2

The shirt was (The shirt was wrinkled by something.) $\xrightarrow{\text{T delete}}$

NP + Tns + Be + en + Vtr

The shirt was wrinkled.

NP^1 + Tns + Verb + Loc

A shirt lay on the floor.

S

NP + Tns + be + en + Vtr

The shirt was wrinkled.

$\xrightarrow{\text{T embed}}$

S

NP + which + Tns + be + en + Vtr

A shirt which was wrinkled . . . $\xrightarrow{\text{T delete}}$

S

NP + en + Vtr

A shirt wrinkled . . . $\xrightarrow{\text{T reorder}}$

S

T + en + Vtr + N + N^o

A wrinkled shirt

2. The tired boy was irritable.

NP + Tns + Be + Adj

The boy was S

NP^1 + Tns + Vtr + NP^2

Something tired the boy.

$\xrightarrow{\text{T embed}}$

NP + Tns + Be + NP^1 + Tns + Vtr + NP^2

The boy was (Something tired the boy.) $\xrightarrow{T_{passive}}$

NP + Tns + Be + NP^2 + Tns + be + en + Vtr + by + NP^2

The boy was (The boy was tired by something.) $\xrightarrow{\text{T delete}}$

NP + Tns + be + en + Vtr

The boy was tired.

NP + Tns + Be + Adj

The boy was irritable.

NP^1 + Tns + be + $\overline{S}$ [en + Vtr]

The boy was tired.

T embed ⟩

NP + who + Tns + Be + $\overline{S}$ [en + Vtr]

The boy who was tired . . .

T delete ⟩

NP + $\overline{S}$ [en + Vtr]

The boy tired . . .

T reorder ⟩

T + $\overline{S}$ [en + Vtr] + N + N^o

The tired boy

3. Mother threw out the faded flowers.

NP + Tns + Be + Adj

The flowers were $\underline{S}$

NP + Tns + Vtr + NP^2

Something faded the flowers.

T embed ⟩

NP + Tns + Be + NP^1 + Tns + Vtr + NP^2

The flowers were (Something faded the flowers.)

T passive ⟹

NP + Tns + Be + NP^2 + Tns + Be + en + Vtr + by + NP^1

The flowers were (The flowers were faded by something.

T delete ⟩

NP + Tns + be + $\overline{S}$ [en + Vtr]

The flowers were faded.

NP + Tns + Vt_{prt} + P_{rt} + NP^2

Mother threw out the flowers.

NP + Tns + be + $\overline{\text{S}}$ [en + Vtr]

The flowers were faded.

} T embed ⟹

. . . + NP + which + Tns + be + $\overline{\text{S}}$ [en + Vtr]

Mother threw out the flowers which were faded. ⟹ T delete

. . . + NP + $\overline{\text{S}}$ [en + Vtr]

Mother threw out the flowers faded ⟹ T reorder

. . . T + N + N^o + en + Vtr

. . . the faded flowers

4. The hampered runner lost the race.

NP + Tns + Be + Adj

The runner was ___S___.

NP + Tns + Vtr + NP^2

Something hampered the runner.

} T embed ⟹

NP + Tns + Be + NP^1 + Tns + Vtr + NP^2

The runner was (Something hampered the runner.) ⟹ $T_{passive}$

NP + Tns + Be + NP^2 + Tns + be + en + Vtr + by + NP^1

The runner was (The runner was hampered by something. ⟹ T delete

NP + Tns + Be + $\overline{\text{S}}$ [en + Vtr]

The runner was hampered.

NP + Tns + Vtr + NP^2

The runner lost the race.

NP + Tns + Be + $\overline{\text{S}}$ [en + Vtr]

The runner was hampered.

} T embed ⟹

NP + who + Tns + Be + $\overline{\text{S}}$ [en + Vtr]

The runner who was hampered + . . .

T delete ⟩

NP + $\overline{\text{S}}$ [en + Vtr]

The runner hampered

T reorder ⟩

T + $\overline{\text{S}}$ [en + Vtr] + N + N^{o}

The hampered runner . . .

5. Annoyed dogs may bite.

NP + Tns + Be + Adj

Dogs are ____S____.

NP^{1} + Tns + Vtr + NP^{2}

Someone annoys the dogs.

} T embed ⟩

NP + Tns + Be + NP^{1} + Tns + Vtr + NP^{2}

Dogs are (Someone annoys the dogs.)

$T_{passive}$ ⟹

NP + Tns + Be + NP^{2} + Tns + be + en + Vtr + by + NP^{2}

Dogs are (The dogs are annoyed by someone.)

T delete ⟩

NP + Tns + Be + $\overline{\text{S}}$ [en + Vtr]

Dogs are annoyed.

NP + Tns + M + Vin

Dogs may bite.

NP + Tns + be + $\overline{\text{S}}$ [en + Vtr]

Dogs are annoyed.

} T embed ⟩

S

NP + which + Tns + be + en + Vtr + . . .

Dogs which are annoyed may bite.

T delete ⟩

S
NP + en + Vtr + . . .
Dogs annoyed . . .

T reorder

S
Ø + en + Vtr + N + N°
Annoyed dogs . . .

B. 1. The attorney summarized the known facts.

NP^1 + Tns + Verb + NP^2
The attorney summarized the facts.

NP^1 + Tns + Vtr + NP^2
Someone knew the facts.

T embed

. . . + NP^2 + NP^1 + Tns + Vtr + NP^2
The attorney summarized the facts (Someone knew the facts.)

T passive

. . . + NP + NP^2 + Tns + be + en + Vtr + by + NP^1
. . .the facts (the facts were known by someone.)

T wh-attachment*

. . . + NP + which + Tns + be + en + Vtr + by + NP^1
the facts which were known by someone

T delete

NP + en + Vtr
. . . the facts known

T reorder

T + en + Vtr + N + N°
the known facts

2. Adam ate the forbidden fruit.

NP^1 + Tns + Verb + NP^2
Adam ate the fruit.

NP^1 + Tns + Vtr + NP^2
Someone forbade the fruit

T embed

. . . + NP + NP^1 + Tns + Vtr + NP^2
Adam ate the fruit (Someone forbade the fruit.)

T passive

* *You may need to remind your students that when a relative clause is embedded a wh-attachment transformation takes place. That is, the identical NP becomes who, which or that.

. . . + NP + NP^2 + Tns + be + en + Vtr + by + NP^1

the fruit (The fruit was forbidden by someone.) ⟹ T substitute

NP + which + Tns + be + en + Vtr + by + NP^1

the fruit which was forbidden b y someone ⟹ T delete

T + en + Vtr + N + N^o

the forbidden fruit

3. Managed news can be dangerous.

NP + Tns + M + Be + Adj

News can be dangerous.

NP^1 + Tns + Vtr + NP^2

Someone manages the news. ⟹ T embed

NP + NP^1 + Tns + Vtr + NP^2 + . . .

News (Someone manages the news) can be dangerous. ⟹ $T_{passive}$

NP + NP^2 + Tns + be + en + Vtr + by + NP^1

News (The news is managed by someone.) . . . ⟹ T wh-attachment

NP + which + Tns + be + en + Vtr + by + NP^2

News which is managed by someone ⟹ T delete

$\emptyset$ + en + Vtr + N + N^o

Managed news

#4. This jewelry is tarnished.

NP + Tns + Be + Adj

The jewelry is S

NP^1 + Tns + Vtr + NP^2

Something tarnishes the jewelry. ⟹ T embed

NP + Tns + Be + NP^1 + Tns + Vtr + NP^2

The jewelry is (Something tarnishes the jewelry.) ⟹ $T_{passive}$

NP + Tns + Be + NP^2 + Tns + be + en + Vtr + by + NP^1

The jewelry is (the jewelry is tarnished by something.) ⟹ T delete

NP + Tns + Be + en + Vtr

the jewelry is tarnished.

#(Students need to be aware that the words derived from $\frac{S}{ing + Vtan}$ and $\frac{S}{en + Vtr}$ are often used as predicate adjectives after Be or Vlnk verbs, as in this sentence.)

5. The internes moved the wounded man.

NP^1 + Tns + Vtr + NP^2

The internes moved the man.

NP^1 + Tns + Vtr + NP^2

Someone wounded the man. ⟹ T embed

. . . NP + NP^1 + Tns + Vtr + NP^2

the internes moved the man (Someone wounded the man.) ⟹ T passive

. . . + NP + NP^2 + Tns + be + en + Vtr + by + NP^1

the man (the man was wounded by someone.) ⟹ T wh-attachment

. . . NP + who + Tns + be + en + Vtr + by + NP^1

the man who was wounded by someone.) ⟹ T delete

. . . + NP + en + Vtr

the man wounded ⟹ T reorder

T + en + Vtr + N + N^o

the wounded man

Review Exercise, p. 21

Because this exercise emphasizes the importance of the derivational history of the ing and en words, students are not asked to embed the derived forms in NP's.

1. Reporters were interviewing the rescued man.

NP + Tns + be + ing + Vtr + NP

Reporters were interviewing the _____ man.

NP + Tns + Vtr + NP^2

Someone rescued the man.

T embed ⟹

. . . + NP + NP + Tns + Vtr + NP^2

. . . the man (Someone rescued the man.)

$T_{passive}$ ⟹

NP + NP^2 + Tns + be + en + Vtr + by + NP^2

the man (the man was rescued by someone.)

T wh-attachment ⟹

2. His gesture had a soothing effect

NP + Tns + Be + Adj

The effect was _S_

NP + Tns + Vtan + NP^2

The effect soothed someone.

T embed ⟹

NP + Tns + Be + NP^1 + Tns + Vtan + NP^2

The effect was (the effect soothed someone.)

T add ⟹

NP + Tns + Be + NP^1 + Tns + be + ing + Vtan + to + NP^2

The effect was (the effect was soothing to someone.)

T delete ⟹

3. Police intercepted the speeding car.

NP + Tns + Vtr + NP

Police intercepted the car.

NP + Tns + be + ing + Vin

The car was speeding.

T embed ⟹

NP + Tns + Vtr + NP^2 + which + Tns + be + ing + Vin

Police intercepted the car (which was speeding.)

T delete ⟹

4. They released the bound man.

NP + Tns + Vtr + NP^2

They released the man.

NP^1 + Tns + Vtr + NP^2

Someone bound the man.

T embed ⟹

. . . + NP + NP^1 + Tns + Vtr + NP^2

They released the man (someone bound the man.)

$T_{passive}$ ⟹

. . . + NP + NP^2 + Tns + be + en + Vtr + by + NP^1

They released the man (the man was bound by someone.)

T wh-attachment ⟹

5. That firm sold watered gasoline.

NP + Tns + Vtr + NP

That firm sold gasoline.

NP + Tns + Vtr + NP^2

Someone watered the gasoline.

T embed ⟹

. . . + NP + NP^1 + Tns + Vtr + NP^2

That firm sold gasoline (Someone watered the gasoline.)

$T_{passive}$ ⟹

. . . + NP + NP^2 + Tns + be + en + Vtr + by + NP^1

gasoline (the gasoline was watered by someone.)

6. Shredded paper littered the floor.

NP + Tns + Vtr + NP^2

Paper littered the floor.

NP^1 + Tns + Vtr + NP^2

Someone shredded the paper.

T embed ⟹

NP + NP^1 + Tns + Vtr + NP^2

Paper (Someone shredded the paper) + . . .

$T_{passive}$ ⟹

NP + NP^2 + Tns + be + en + Vtr + by + NP^1

Paper (the paper was shredded by someone

7. Someone has identified the murdered man.

NP + Tns + have + en + Vtr + NP
Someone has identified the _____ man.

NP^1 + Tns + Vtr + NP^2
Someone murdered the man.

T embed ⟹

. . . + NP + NP^1 + Tns + Vtr + NP^2
the man (Someone murdered the man.)

$T_{passive}$ ⟹

+ . . . NP + NP^2 + Tns + be + en + Vtr + by + NP^1
the man (the man was murdered by someone.)

8. The sleeping child fell off the bed.

NP + Tns + Vt_{prep} + Prep + NP
The child fell off the bed.

NP + Tns + be + ing + Vin
The child was sleeping.

T embed ⟹

NP + who + Tns + be + ing + Vtr
The child (who was sleeping) + . . .

T delete ⟹

9. Someone should have stopped the running man.

NP + Tns + M + have + en + Vtr + NP
Someone should have stopped the man.

NP + Tns + be + ing + Vin
The man was running.

T embed ⟹

NP + who + Tns + be + ing + Vin
the man (who was running)

T delete ⟹

10. Have you heard the exciting news?

NP + Tns + Be + Adj
The news is S.

NP + Tns + Vtan + NP^2
The news excites someone.

T embed ⟹

NP + Tns + Be + NP^1 + Tns + Vtan + NP^2
The news is (The news excites someone.)

T add ⟹

NP + Tns + Be + NP^1 + Tns + be + ing + Vtan + to + NP^2
The news is (The news is exciting to someone.)

T delete ⟹

11. Churchill was a respected person.

NP + Tns + Be + Adj
The person was S

NP^1 + Tns + Vtr + NP^2
Someone respected the person.

T embed ⟹

NP + Tns + Be + NP^1 + Tns + Vtr + NP^2
A person was (Someone respected the person.)

$T_{passive}$ ⟹

NP + Tns + Be + NP^2 + Tns + be + en + Vtr + by + NP^1
A person was (the person was respected by someone.

T delete ⟹

12. The evicted tenant has filed suit.

NP + Tns + have + en + Vtr + NP
The tenant has filed suit.

NP^1 + Tns + Vtr + NP^2
Someone evicted the tenant.

T embed ⟹

NP + NP^1 + Tns + Vtr + NP^2 + . . .
The tenant (Someone evicted the tenant)

$T_{passive}$ ⟹

NP + NP^2 + Tns + be + en + Vtr + by + NP^1
The tenant (the tenant was evicted by someone.)

T wh-attachment ⟹

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OREGON CURRICULUM STUDY CENTER

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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DERIVED ADJECTIVES

Language Curriculum V

Student Version

TE000 212

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Student Version

DERIVED ADJECTIVES

You will remember that in the development of the Phrase Structure rules we accounted for those adjectives which may occur in any sentence having the form NP + Be + Adj or NP + Vlnk + Adj. These included the adjectives used in kernel sentences such as

The sky is red.
The girl seems silly.
Some houses are square.

Later, we discovered that by embedding kernel sentences whose form is NP + Aux + Be + Adj in other sentences we could account for embedded adjectives found in sentences like

The red sky frightened the natives.
The silly girl drove down the middle of the street.
Some people like square houses.

In the final step in this embedding transformation, as you will recall, we moved the embedded adjective from its place immediately following the NP to a position directly before the noun in the NP. That is, in order to produce a grammatical sentence, we had to reposition the embedded element before the noun. Thus, we combined sentences in this manner:

The sky frightened the natives.
The sky is red.
} T embed ⟹

The sky which is red frightened the natives. T delete ⟹

*The sky red frightened the natives. T reorder ⟹

The red sky frightened the natives.

Have you ever used sentences like these?

We saw an interesting movie last night.
The shouting fans irritated the referee.

What is the NP^2 in the first sentence? What is the subject NP in the second sentence? You will notice that these NP's contain ing-words in the position where embedded adjectives occur. In this unit we will investigate and account for some of these ing-words used in noun phrases.

List the ing- words in these sentences:

1. The purring cat nodded before the fire.
2. He grabbed the trembling boy.
3. The struggling elephant presented a problem.
4. A whistling boy sat on the fence.
5. The pitching boat frightened us.

In what way are these elements alike? What are they followed by in each sentence? Would you agree that we could replace any of these ing-words with an adjective? That is, the purring cat might be the fat cat, a whistling boy might be a happy boy, etc.

Can we then account for the purring cat in the same way we explained the fat cat? Let's look again at the sentences we combined on page 1. What kind of verb must a source sentence have in order to be embedded as an adjective? In an adjective embedding, what parts of the consumer and source sentences must be identical? What is deleted from the embedded source? You notice that in such a transform the consumer and source sentences must have an identical NP. We symbolize such a transformation in this way:

NP + . . .

Consumer: The sky frightened the natives.

NP + Aux + Be + Adj

Source: The sky is red.

T embed ⟹

. . . + NP + which + Aux + Be + Adj + . . .

The sky which is red frightened the natives.

T delete ⟹

. . . NP + Adj + . . .

The sky red frightened the natives

To keep from producing nonsentences like *"The barn red is on fire." we added a final step:

. . . + T + N + N^0 + Adj — T reorder ⟹ . . . + T + Adj + N + N^0 + . . .

the sky red — the red sky

Can we account in a similar way for all or any ing-words embedded in noun phrases? Consider the first sentence that we looked at:

The purring cat nodded before the fire.

1. What is the consumer sentence? What is the source?
2. Do they have an identical NP?

The cat nodded before the fire.
The cat was purring.

3. What auxiliary appears in the source sentence?
4. What kind of verb appears in the source sentence? What is the complete verb in the source? How would you write the symbol string for the source sentence? How does this source sentence differ from The sky was red.? Such a comparison points up a sharp difference in the two source sentences

and suggests that, although purring may appear in a NP in the same position as an adjective it is not an adjective in the source sentence, The cat was purring. Rather, we find that purring is an ing + Vin.

NP + Aux + be + ing + Vin
The cat was purring.

5. What must be deleted from the embedded sentence in order to produce the desired transformation?

The cat which was purring nodded before the fire.

6. What elements need to be reordered?

We can summarize these conclusions by saying that, in order to perform this kind of embedding,

1) The consumer and source sentences must contain identical NP's.
2) The source sentence must contain be + ing + Vin.
3) All of the source is deleted except ing + Vin.
4) The ing-word must be placed before the noun even though it is a ing-Vin rather than an Adj. (. . . T + ing + Vin + N + N^{O} +. . .)

Test these four conclusions by applying them to the other sentences:

2. He grabbed the trembling boy.
3. The struggling elephant presented a problem.
4. A whistling boy sat on the fence.
5. The pitching boat frightened us.

The similarity between the embedded adjectives formed from Be source sentences (the red sky) and the ing-words derived from be + ing + Vin and used in NP's (The purring cat) is apparent when we symbolize the embedding of this kind of ing-word in this way:

. . . NP . . .
the cat

NP + Tns + be + ing + Vin
The cat was purring.

} T embed ⟹

. . . NP + which + Tns + be + ing + Vin
The cat which was purring

T delete ⟹

. . . NP + ing + Vin
The cat purring

T reorder ⟹

. . . T + ing + Vin + N + N^{o}

The purring cat

As you can see, the process of embedding the source sentence, The cat was purring, is very similar to the embedding of the source sentence, The sky was red. (See page 2)

Conclusions about the two embeddings in the NP

ing + Vin words	Aux + Be + Adj
1. The consumer and source sentences must contain identical NP's.	1. The consumer and source sentences must contain identical NP's.
2. The source sentence must contain be + ing + Vin.	2. The source sentence must contain Aux + Be + Adj.
3. The source is embedded in the consumer right after the identical NP.	3. The source is embedded in the consumer right after the identical NP.
4. All of the source is deleted except ing + Vin.	4. All of the source is deleted except Adj.
5. The ing-word is placed before the noun.	5. The adjective is placed before the noun.

Exercise 1: A. Apply the rule by embedding the source sentences in the consumer sentences. (Remember this requires three steps.) B. Symbolize each step of the transformation.

Example: . . . NP . . .

The candle ruined the tablecloth.

NP + Tns + be + ing + Vin

The candle was dripping.

T embed

NP + which + Tns + be + ing + Vin + . . .

The candle which was dripping ruined the tablecloth.

T delete

NP + ing + Vin + . . .

The candle dripping ruined the tablecloth.

T reorder

T + ing + Vin + N + N^{o} + . . .

The dripping candle ruined the tablecloth.

1. The wind damaged the wheat.
   The wind was howling.

2. A baby disturbed the guests.
   A baby was crying.

3. Police stopped the man.
   The man was running.

4. The trainer rubbed Tom's shoulder.
   Tom's shoulder was aching.

5. The snow caused concern.
   The snow is melting.

6. A duckling won first prize.
   A duckling was ugly.

7. The water has worn away the stone.
   The water is dripping.

8. Children disturb their parents.
   The children are lying.

Exercise 2: Write the underlying source and consumer sentences for the following and construct their symbol strings.

Example: Growing children have problems.

NP + Tns + Vmid + NP

Children have problems.

NP^{1} + Tns + be + ing + Vin

Children are growing.

1. The exploding firecrackers startled us.
2. Rioting students destroyed the signs.
3. The Greeks dumped boiling oil on the enemy.
4. Increasing enrollments are frustrating administrators today.
5. Flying objects have fascinated people for many centuries.
6. The plane emitted a flashing light.

In looking at different kinds of words which can be embedded in the NP we must examine their dissimilarities as well as their similarities. Consider these NP's:

The cat was purring. ⟹ The purring cat
The book was interesting. ⟹ The interesting book
The sunset was red. ⟹ The red sunset

Which two embedded elements seem to be more alike? Perhaps because purring and interesting look somewhat the same, you selected them. Or perhaps you sensed that in spite of the ing similarity, purring and interesting are not alike. Linguists have noticed that adjectives may be modified by words like very or quite, which are called intensifiers. We can add very or quite to embedded adjectives and to certain ing-words.

The book was very interesting. ⟹ The very interesting book
The sunset was very red. ⟹ The very red sunset

but we cannot add very to all NP's with ing-words:

* The cat was very purring. ⟹ * The very purring cat
* The candle was very dripping. ⟹ * The very dripping candle
* The boy was very trembling. ⟹ * The very trembling boy

This suggests that although we may use a variety of ing-words, like purring and interesting, in NP's we cannot lump all ing-words into one group.

How would you classify the verbs in these sentences? (A close look at their direct objects may help you decide.)

1. The truth often surprises people.
2. Something frightened her.
3. My answer amused the teacher.
4. This book interests teenagers.

You probably discovered that these verbs belong to the special group of transitives verbs (V_{tan}) that require animate objects. When we use the ing-form of V_{tan}, we find that they have another quality which separates them from many other verbs.

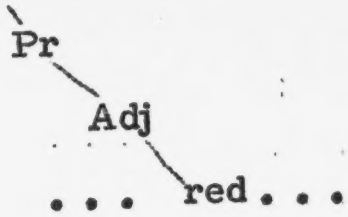
1. The truth is often surprising to people.
2. Something was frightening to her.
3. The answer was amusing to the teacher.
4. This book is interesting to teenagers.

Could you say, "The truth is often very surprising to people."? Could you add very or quite to the sentences containing frightening, amusing, and interesting? You probably agree that each of these accepts an intensifier. But you will remember that when very is used with words like purring, it produces nongrammatical sentences, such as

*The cat was very purring.

One important distinction, then, between words coming from ing + Vin and those derived from ing + Vtan is that the ing-words in the latter group, such as interesting and frightening, will accept an intensifier like very or quite.

Perhaps we can explain the difference between purring and interesting by recognizing that there may be different kinds of adjectives. Whenever we rewrite one symbol as something else we are saving that the first symbol dominates the second. Thus, S dominates NP in the first phrase structure rule. And whatever can be written under a symbol in the tree diagram is dominated by that symbol. You remember, of course, that in a sentence with the symbol string NP^1 + Aux + Be + Pr we can rewrite Pr as NP, Loc, or Adj. Thus Pr dominates Adj. And Adj dominates what can be written under it. So far we have thought of adjectives as words like red, tall, quiet, etc. which can be written under Adj in the diagram



But perhaps there are other adjective-type elements--those like interesting --which can appear under Adj but which may come from other sentences entirely.

A review of the characteristics of Vtan may clarify this. We can place these Vtan verbs in the same frame we used to test for animate nouns in the phrase structure rules:

It _____ someone.

NP^1 + Aux + Vtan + NP^2

It interests someone.

There is also the sentence It is interesting to someone. Are these sentences related? Can we think of the latter as having been derived by a transformation from It interests someone? Let's compare the two sentences and the sentence strings for them.

NP^1 + Tns + Vtan + NP^2 ⟹ NP^1 + Tns + be + ing + Vtan + to + NP^2

It interests someone ⟹ It is interesting to someone.

What have we added to the kernel in order to produce the ing-form? This transformation adds be + ing to the verb and inserts to before the NP^2. Because the sentence It interests someone contains the Vtan interest, we can consider it the source sentence for the transformation which produces the form interesting. In other words, interesting is derived from the source sentence containing interest.

This should lead us to conclude that in a sentence with the symbol string NP^1 + Aux + Be + Adj, one possible source of Adj is another sentence. Thus, in order to account for the sentence, The book is interesting, we must recognize that interesting comes from another sentence. That means that the source sentence of interesting has been embedded in the consumer

at the position where the Adj occurs.

The book is [Adj]
S

(We will let S stand for the other sentence which is embedded as one kind of adjective.) What then is the source sentence of interesting which is embedded?

The book is [Adj]
S — The book interests someone. ⟹

The book is interesting to someone.

We have said It is interesting to someone is derived from It interests someone. Therefore, we can consider The book interests someone as the source of The book is interesting to someone.

The embedding transformation would look like this:

NP^1 + Tns + Be + Adj
The book is S .

NP^1 + Tns + Vtan + NP^2
The book interests someone. ⟹

Then, the source sentence is embedded as Adj.

NP^1 + Tns + Be + NP^1 + Tns + Vtan + NP^2
The book is (The book interests someone.)

What did we add to the source sentence to produce It is interesting to someone?

NP^1 + Tns + Be + NP^1 + Tns + be + ing + Vtan + to + NP^2
The book is (The book is interesting to someone.)

What parts of the two sentences are identical? What remains when we delete NP^1 and Tns + be in the embedded part of the sentence?

NP^1 + Tns + Be + ing + Vtan + to + NP^2
The book is interesting to someone

What else can we delete?

NP^1 + Tns + Be + $\overline{\text{S}}$ ing + Vtan
The book is interesting.

If the $\underline{NP}^2$ is "to someone," we can delete it. However, if the source sentence contains an NP^2 other than "someone," (i.e., The book interests me.) the "to + NP^2" cannot be deleted. In such a case, the last step (T delete "to someone") is omitted, and the "to" and NP^2 remains in the embedded element. The book is (the book interests me.)

The book is (The book is interesting to me.)

The book is interesting to me.

Stated symbolically, then, the steps in the transformation that derives ing + words from Vtan would be

$NP^1 + Tns + Be + Adj$
$NP^1 + Tns + Vtan + NP^2$ } $\xRightarrow{\text{T embed}}$

$NP^1 + Tns + Be + (NP^1 + Tns + Vtan + NP^2)$ $\xRightarrow{\text{T add be + ing and to}}$

$NP^1 + Tns + Be + \overset{S}{\overbrace{(NP^1 + Tns + be + ing + Vtan + to + NP^2)}}$ $\xRightarrow{\text{T delete NP + Tns + be}}$

$NP^1 + Tns + Be + \overset{S}{\overbrace{(ing + Vtan + to + NP^2)}}$ $\xRightarrow{\text{T delete "to someone"}}$

$NP^1 + Tns + Be + \overset{S}{\overbrace{ing + Vtan}}$

The book is interesting.

What restrictions must be placed on such a derivation?

1. The consumer and source sentences must contain an identical NP and Tns.
2. The source sentence is embedded in the consumer under Adj.
3. Be + ing is added to the verb of the embedded sentence.
4. To is inserted before the direct object NP (NP^2).
5. NP^1 + Tns + be of the embedded sentence is deleted.
6. If one NP^2 is to someone it may be deleted.

Exercise 3: Embed the source sentences in the consumer sentences. Then apply the rule by symbolizing each step of the transformation.

Example: The results are astonishing.

$NP^1 + Tns + Be + Adj$
The results are S
$NP^1 + Tns + Vtan + NP^2$
The results astonish someone
} $\xRightarrow{\text{T embed}}$

$$NP^1 + Tns + Be + \overbrace{NP^1 + Tns + Vtan + NP^2}^{S}$$

The results are (The results astonish someone.) $\xrightarrow{\text{T add}}$

$$NP^1 + Tns + Be + \overbrace{NP^1 + Tns + be + ing + Vtan + to + NP^2}^{S}$$

The results are (The results are astonishing to someone.) $\xrightarrow{\text{T delete}}$

$$NP^1 + Tns + Be + \overbrace{ing + Vtan + to + NP^2}^{S}$$

The results are astonishing to someone $\xrightarrow{\text{T delete "to someone"}}$

$$NP + Tns + Be + \overbrace{ing + Vtan}^{S}$$

The results are astonishing.

1. Some accidents are Adj
   Some accidents nauseate me.

2. The situation is Adj
   The situation amuses the teacher.

3. Her expression is Adj
   Her expression forbids someone.

4. That conclusion is Adj.
   That conclusion surprises someone.

5. His personality is Adj
   His personality pleases someone.

By embedding interesting under Adj we simplify the rules that account for intensifiers. In the sentence,

$$NP^1 + Tns + be + \overbrace{ing + Vtan}^{Adj}$$

The book is interesting, we have

derived interesting from a source sentence. This places the ing-word in the Adj position in the sentence. A simple rewrite of Adj then can show this.

$$Adj \longrightarrow \left\{ \begin{matrix} S \\ \dots \end{matrix} \right\}$$

Then by adding the optional intensifier to the Adj we can account for the use of words like very and quite with adjectives and with ing + Vtan words (very red and very interesting)

$$Pr \longrightarrow \left\{ \begin{matrix} NP \\ Loc \\ (very)\ Adj \end{matrix} \right\}$$

We have now accounted for ing-words in sentences like The book is interesting. and The book is very interesting., but what about the occurrence of interesting in an NP, such as the interesting book or the very interesting book? You will recall that in our study of single-base transformations we found that the same general rule underlies all questions. And again, in our consideration of the imperative, we discovered that the underlying kernel string for both the positive and negative imperative is the same except the one contains Neg. In this unit we have already established a relationship between the embedding of adjectives like red, pretty, etc., and the embedding of ing-words derived from ing + Vin. Can we embed interesting in a similar way to account for a ing-Vtan used in a NP? In other words, does the same transformation prepose red, purring, and interesting in an NP? Let us assume on the basis of our knowledge about the embedding of adjectives and of ing-words derived from Vin that the sentence, I have read an interesting book, comes from the embedding of a source sentence in the consumer, I have read a book.

SENTENCE: I have read a book.

CONSUMER: $NP^1 + Tns + have + Verb + NP^2$

I have read a book.

$NP^1 + Tns + Vtan + NP^2$

SOURCE: The book interests someone.

T embed ⟩

Do the consumer and source have an identical NP? Where is the source embedded in the consumer in the relative clause embedding? Where will this source be embedded? S

$\ldots + NP + \overline{NP^1 + Tns + Vtan + NP^2}$

I have read a book (The book interests someone.)

T add ⟩

$\ldots + NP + NP^1 + Tns + be + ing + Vtan + to + NP^2$

I have read a book (The book is interesting to someone.)

S

Twh-attachment ⟩

$\ldots + NP + \overline{NP + Tns + be + ing + Vtan}$

I have read a book which is interesting.

S

T delete ⟩

$\ldots + NP + \overline{ing + Vtan}$

I have read a book interesting.

S

T reorder ⟩

$T + \overline{ing + Vtan} + N + N^0$

an interesting book

It seems, then, that the same transformation that preposes red (the red sky) and purring (the purring cat) preposes interesting after a sentence containing interesting has itself been embedded in a consumer. In other words, the same transformation accounts for three kinds of embedded elements used in NP's--

adjective: The red sky
ing + Vin: The purring cat
S
ing + Vtan: The interesting book

You will remember that in some relative clause embeddings no reordering occurs. In embedding ing + Vtan we have noted that if the NP^2 is "to someone," it is deleted. What happens when we reorder an embedded ing + Vtan that retains the NP^2?

I have read a book [The book interests Mary.]
I have read a book [The book is interesting to Mary.]
I have read a book [which is interesting to Mary.]
I have read a book [interesting to Mary.]

a book interesting to Mary *an interesting to Mary book

Because such a reordering produces a nongrammatical sentence, the rule is reduced by one step when the NP^2 is retained after the ing + Vtan.

Exercise 4: These sentences contain ing + Vtan words. Some are used in an NP, others are embedded after Be or Vlnk. Account for their derivation by constructing the sentences and strings from which each is derived.

Examples: 1. This is a startling development.

CONSUMER: NP^1 + Tns + Be + NP^2
This is a development.

SOURCE: NP^1 + Tns + Vtan + NP^2
The development startles someone.

2. The news is startling.

CONSUMER: NP^1 + Tns + Be + Adj
The news is S .

SOURCE: NP^1 + Tns + Vtan + NP^2
The news startles someone.

1. The official made an astonishing discovery.
2. Her reaction was astonishing.

3. The brochure promises an exciting time.
4. The trip sounds exciting.
5. Truth can be amazing.
6. He has had amazing success.

Exercise 5: These sentences contain ing-words used in NP's. Try to distinguish between those derived from Vin and those from Vtan. Write the transformations that embed each ing-form.

Example: 1. The smouldering bonfire bothered the players.

$NP^1 + Tns + Vtr + NP^2$

The bonfire bothered the players.

$NP^1 + Tns + be + ing + Vin$

The bonfire was smouldering.

T embed ⟹

$NP^1 + which + Tns + be + ing + Vin$

The bonfire which was smouldering . . .

T delete ⟹

$NP^1 + ing + Vin$

The bonfire smouldering . . .

T reorder ⟹

$T + \overset{S}{\overline{ing + Vin}} + N + N^o$

the smouldering bonfire . . .

2. This is a startling development.

$NP^1 + Tns + Be + NP$

This is a development

T embed ⟹

$NP + Tns + be + \overset{S}{\overline{ing + Vtan}}$

The development is startling

. . . $NP + which + Tns + be + \overset{S}{\overline{ing + Vtan}}$

T delete ⟹

. . . the development which is startling

. . . $NP + \overset{S}{\overline{ing + Vtan}}$

T reorder ⟹

the development startling

. . . $T + \overset{S}{\overline{ing + Vtan}} + N + N^o$

the startling development

1. The laughing girl showed her braces.
2. He has a pleasing personality.
3. Jenny had a horrifying experience.
4. Hibernating bears may be cantankerous.
5. This soup has an inviting aroma.
6. The waiting crowd hissed at the delay.

Other elements embedded in NP

Do NP's ever contain other kinds of embedded words? You may remember seeing sentences similar to these:

The abandoned children disappeared.
Several cars hit the paralyzed spectators.
Officials have recovered the stolen money.

How would you account for the underlined words in these sentences? In what ways are these words similar to the other embedded elements used in NP's?

To help you answer these questions, we can compare these phrases with other NP embeddings. Ing-words used in NP's are derived from verbs. You probably agree that abandoned, paralyzed, and stolen are also verb forms. They, like purring, interesting, and red, are placed before the noun in the NP.

Look at these sentences. What is the relation between the third and fourth sentence in each group?

1. The abandoned children disappeared.
   The children disappeared.
   The children were abandoned by someone.
   Someone abandoned the children.

2. Several cars hit the paralyzed spectators.
   Several cars hit the spectators.
   The spectators were paralyzed by something.
   Something paralyzed the spectators.

3. Officials have recovered the stolen money.
   Officials have recovered the money.
   The money was stolen by someone.
   Someone stole the money.

How can you prove that the third sentence in each group is derived from the fourth? Which sentence in each group contains the form derived from the passive transformation? Are the verbs in the fourth sentence in each group alike in any way? Why must all these verbs be transitives?

Let's apply what we discovered about the embedding of ing-verbs in NP's to this sentence:

The abandoned children disappeared.

Obviously, the consumer sentence is The (___) children disappeared. The en-form of abandon comes from the passive which is itself derived from the source sentence, Someone abandoned the children. What is added to the source to form the passive? What else happens in this transformation?

Someone abandoned the children ⟹ The children were abandoned by someone.

The passive then, becomes the second step in the en embedding.

CONSUMER: $NP^1 + Tns + Verb$

The children disappeared.

$NP^1 + Tns + Vtr + NP^2$

SOURCE: Someone abandoned the children.

} T embed ⟹

$NP^1 + NP^1 + Tns + Vtr + NP^2 + Tns + Verb$

The children (Someone abandoned the children) disappared. ⟹ T passive

$NP^1 + NP^2 + Tns + be + en + Vtr + by + NP^1 + \ldots$

The children (The children were abandoned by someone) . . . ⟹ Twh-attachment

$NP^1 + who + Tns + be + en + Vtr + by + NP^2 + \ldots$

The children who were abandoned by someone. . . ⟹ T delete

What should be deleted from the embedding to complete the transformation?

$NP^1 + en + Vtr + Tns + Verb$

The children abandoned disappeared. ⟹ T reorder

Reordering, then, to prepose the derived verb abandoned becomes the final step in the transformation.

$T + N + N^o + en + Vtr$ ⟹ $T + en + Vtr + N + N^o$

The children abandoned ⟹ The abandoned children

In summary, at this point, we can say that

1. The en-form of some Vtr's may be used in NP's.
2. This en-form is derived from passive sentences.

$NP^1 + Tns + Vtr + NP^2$ ⟹ $NP^2 + Tns + be + en + Vtr + by + NP^2$

Somebody abandoned the children ⟹ The children were abandoned by someone.

3. The same kind of embedding transformation preposes adjectives (red), ing + Vin words (purring), ing + Vtan words (interesting), and en + Vtr words (abandoned) when these elements are used in NP's.

$$\left.\begin{array}{l}\ldots NP + \ldots \\ NP + Tns + Vtr + NP^2\end{array}\right\} \xrightarrow{\text{T embed}}$$

$$NP + (NP^1 + Tns + Vtr + NP^2) + \ldots \xrightarrow{\text{T passive}}$$

$$NP + (NP^2 + Tns + be + en + Vtr + by + NP^1) + \ldots \xrightarrow{\text{Twh-attachment}}$$

$$NP + \left\{\begin{array}{l}\text{who or which} \\ \text{that}\end{array}\right\} + Tns + be + en + Vtr + by + NP^1 \xrightarrow{\text{T delete}}$$

$$NP^1 + \overline{en + Vtr} \xrightarrow{\text{T reorder}}$$

$$T + \overline{en + Vtr} + N + N^o$$

Exercise 6: Write the underlying consumer and source sentences from which the following are derived, and show what happens to the source after it is embedded.

Example: The approved measure will be on the ballot.
The measure will be on the ballot.
Someone approved the measure. ⟹ The measure was approved by someone.

A. 1. Cleared land may cause floods.
2. The book includes illustrated examples.
3. The custodian replaced the broken window.
4. His dyed hair fooled the police.
5. The mayor accepted the signed petition.

B. 1. Mother smelled the burning cake.
2. The wrapped package tempted Uncle Joe.
3. The squabbling children bothered us.
4. Several invited guests came early.
5. This company employs trained scientists.
6. The writhing snake fascinated the puppy.

The problem of intensifiers used with derived en + Vtr words

Intensifiers are often used with ing + Vtan words. (It was very exciting. and I read a very interesting book.) For this reason, we rewrote Adj to include ing-words derived from Vtan. The logical question now is do intensifiers ever occur with en + Vtr words? Which of these sentences would you accept as standard usage?

1. The rug is very worn.
2. Visibility is quite limited.
3. He was very interested.
4. The baby was very abandoned.
5. Everyone was quite thrilled.

You notice that each sentence contains an intensifier. What is the symbol string for each sentence? What makes the fourth sentence different from the others? Which of these verbs are Vtan?

Apparently, the distinction that permitted us to set ing + Vtan words apart from other ing-words doesn't work here because limited, a Vtr but not a Vtan, accepts an intensifier in sentence 2. On the other hand, the use of very with the Vtr abandoned in sentence 4 results in an ungrammatical sentence. As we did with ing-words, let's look deeper to find why some en + Vtr words take intensifiers while others don't.

How did we account for interesting in This book is very interesting? You will recall that we rewrote Adj as a full sentence.

The book is (very) interesting.

The book is [Adj] Vtan

S (The book interests someone) ⟹

The book is interesting to someone.

To perform this transformation we

1. Embedded the original source.
   The book is (The book interests someone.)

2. Derived the ing + Vtan.
   The book is (The book is interesting to someone.)

3. Deleted all the source but ing + Vtan.
   The book is (very) interesting.

Of course, very is an optional element in the sentence. To permit this transformation, we rewrote the rule as

$$Pr \longrightarrow \left\{ \begin{array}{l} Loc \\ NP \\ (very)\ Adj \end{array} \right\}$$

$$Adj \longrightarrow \left\{ \begin{array}{l} S \\ \cdots \end{array} \right\}$$

Perhaps this rewrite offers a way to account for the en + Vtr forms used with intensifiers. Consider this sentence,

He was (very) interested.

The consumer sentence is

He was [Adj] Vtr

S (Something interested him) ⟹

He was interested by something.

To perform this transformation we

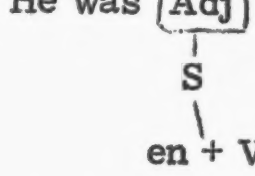
1. Embed the original source.
   He was (Something interested him.)

2. Derive the en + Vtr form (the passive).
   He was (He was interested by something.)

3. Delete all the passive but en + Vtr.
   He was interested.

This derivation permits the addition of the optional intensifier very because we have

1. Embedded a sentence as an Adj.
2. Deleted all of the source (a passive transformation) but en + Vtr.
3. Embedded this en + Vtr element ($\overline{\text{en + Vtr}}^{S}$) under Adj in the sentence.



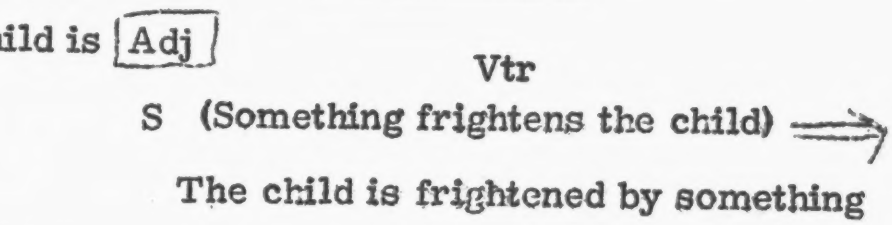
In other words, some en + Vtr words (the ones that may be used with intensifiers) are embedded under Adj in the same manner as ing + Vtan are. And, as with ing + Vtan words used in NP's, we may now embed the $\overline{\text{en + Vtr}}^{S}$ (the ones derived from a sentence) in an NP. That is, we want to account for the embedding of $\overline{\text{en + Vtr}}^{S}$ in an NP.

1. A (very) frightened child may cry.
2. Newspapers led the (very)bigoted attack.

The consumer of the first sentence would be

A adj child may cry.

and we wish to embed the source sentence, The child is frightened. Frightened, of course, occurs in the passive, which is derived from Something frightens the child. In other words, we derive frightened in the same way that we did interested in The man was interested.



To derive the form frightened we

1. Embed the source under Adj
   The child is (Something frightened the child)

2. Transform the source sentence into the passive
The child is (The child is frightened by something)

3. Delete all of the source but en + Vtr
The child is frightened.

The transformed sentence, The child is frightened, then becomes the source sentence which is embedded in the NP of the consumer

A _____ child may cry.

CONSUMER: A child may cry.
SOURCE: The child is frightened. } T embed

A child who is frightened may cry. T delete

*A child frightened may cry. T reorder

$$T + \overset{S}{\overline{en + Vtr}} + N + N^{o} + \ldots$$

A frightened child

What could you say in general about the embedding of ing- and en words in NP's?

In summary we can conclude that
1. Many ing and en words used in NP's are derived from verbs.

2. We have found that four kinds of derived words (ing + Vin, $\overset{S}{\overline{ing + Vtan}}$, en + Vtr, and $\overset{S}{\overline{en + Vtr}}$) used in NP's are preposed in the same way adjectives are. To permit such an embedding
The consumer and source sentences must contain identical NP's.
The source sentence must contain one of the strings:

be + ing + Vin (purring)

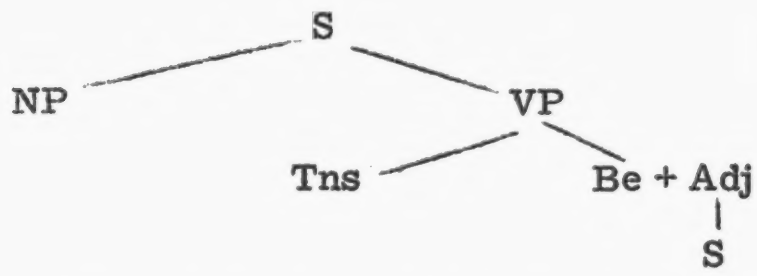
be + $\overset{S}{\overline{ing + Vtan}}$ (interesting)

be + en + Vtr (abandoned)

be + $\overset{S}{\overline{en + Vtr}}$ (frightened)

The source is embedded in the consumer right after the identical NP.
All of the source is deleted except ing or en + verb.
The ing or en word is placed before the noun in the NP.

3. Because $\overset{S}{\overline{ing + Vtan}}$ and $\overset{S}{\overline{en + Vtr}}$ words are derived from other sentences before they are used in NP's, we use the symbol S to indicate their source.
In other words these particular words are derived from sentences which are dominated by Adj.



Then $\underline{\text{NP + Tns + be + Adj}}$ is embedded in the NP.
S

4. A simple rewrite of the Adj rule shows that one kind of Adj derives from a sentence. Then a sentence can be embedded in the position of the adjective Pr. This permits us to account for the use of intensifiers like quite and very before $\frac{\text{S}}{\text{ing + Vin}}$ and $\frac{\text{S}}{\text{en + Vtr}}$ words and before adjectives.

Exercise 7: Write the underlying kernels and symbol strings for the following and indicate the transformation which produced the sentences.

Example: The puzzled people watched the demonstrators.

NP + Tns + be + Adj
The people were $\frac{\text{S}}{}$
NP^1 + Tns + Vtr + NP^2
Something puzzled the people
} T embed

NP + Tns + Be + NP + Tns + Vtr + NP^2
The people were (something puzzled the people) T passive

NP + Tns + Be + NP^2 + Tns + be + en + Vtr + by + NP^1
The people were (the people were puzzled by something) T delete

NP + Tns + Be + en + Vtr
The people were puzzled.

NP^1 + Tns + Verb + NP^2
The people watched the demonstrators.
NP + Tns + be + $\frac{\text{S}}{\text{en + Vtr}}$
The people were puzzled.
} T embed

$$NP + who + Tns + be + \overline{S}\,[\,en + Vtr\,]$$

The people who were puzzled . . .

T delete

$$NP + \overline{S}\,[\,en + Vtr\,]$$

The people puzzled . . .

T reorder

$$T + \overline{S}\,[\,en + Vtr\,] + N + N^{o}$$

the puzzled people

A. 1. A wrinkled shirt lay on the floor.
2. The tired boy was irritable.
3. Mother threw out the faded flowers.
4. The hampered runner lost the race.
5. Annoyed dogs may bite.

B. 1. The attorney summarized the known facts.
2. Adam ate the forbidden fruit.
3. Managed news can be dangerous.
4. This jewelry is tarnished.
5. The internes moved the wounded man.

Review Exercise: Account for the derived words used in the NP's in the following sentences by constructing the underlying base sentences and symbol strings and the transformations necessary to show the derivation.

Examples:

1. The drugged man moaned softly.

$$NP + Tns + Vlnk + Man$$

The man moaned softly.

$$NP^{1} + Tns + Vtr + NP^{2}$$

Someone drugged the man.

T embed

$$NP + NP^{1} + Tns + Vtr + NP^{2}$$

The man (Someone drugged the man). . .

T passive

$$NP + NP^{2} + Tns + be + en + Vtr + by + NP^{1}$$

The man (the man was drugged by someone) . . .

Twh-attachment

2. <u>The hesitating students accepted their fate.</u>

NP + Tns + Vtr + NP^2

The students accepted their fate.

NP + Tns + be + <u>ing + Vin</u>

The students were hesitating.

} T embed ⟹

NP + who + Tns + be + ing + Vin

The students (who were <u>hesitating</u>) . . .

T delete ⟹

1. Reporters were interviewing the rescued man.
2. His gesture had a soothing effect.
3. Police intercepted the speeding car.
4. They released the bound man.
5. That firm sold watered gasoline.
6. Shredded paper littered the floor.
7. Someone has identified the murdered man.
8. The sleeping child fell off the bed.
9. Someone should have stopped the running man.
10. Have you heard the exciting news?
11. Churchill was a respected person.
12. The evicted tenant has filled suit.